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ATLANTA STREETCAR

Accident / Incident Investigation Plan

December 19, 2014



Approved by:

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12/22/2014
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This document has been reviewed and approved by the Atlanta Streetcar Safety Certification and Security Committee.

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1.0 General

1.1 Introduction

The Atlanta Streetcar has developed this *Accident and Incident Investigation Plan* (Plan) in the event that an accident or injury occurs to a passenger or employee.

This Plan encompasses any adverse event, series of adverse events, condition that results in death or injury, occupational illness, damage to or loss of equipment or property, or damage to the environment.

This plan is prepared in accordance with the Federal Transit Administration's (FTA) Rule 49 CFR, Part 659 and the Georgia Department of Transportation (GDOT) Program Standard. GDOT, as the State Safety Oversight Agency, must investigate or cause to be investigated, at a minimum, any incident, which meets the notification thresholds identified in Section 5.4.1 of this Plan, either involving a rail transit vehicle or occurring on rail transit-controlled property.

GDOT is responsible to the FTA for conducting its own independent accident investigations related to rail accidents and incidents that occur at Atlanta Streetcar. In conducting these investigations, GDOT may authorize the Atlanta Streetcar System to conduct an investigation on its behalf, conduct its own investigation, or if the NTSB is investigating the accident, join the investigation through the NTSB's party system. As specified in the GDOT Program Standard, it is the intent of GDOT for Atlanta Streetcar to investigate every reportable event on behalf of the State of Georgia. GDOT's authorization for Atlanta Streetcar to investigate reportable hazards and incidents on behalf of GDOT is contingent upon GDOT's review and approval of Atlanta Streetcar Accident / Incident Investigation Plan and procedures.

1.2 Objectives

This Plan acts as a guide in gathering and evaluating data in order to determine the cause of an accident or incident and identify corrective measures to prevent reoccurrence. The objective of this document is to establish an action plan for Atlanta Streetcar Personnel tasked to respond to accidents within the Atlanta Streetcar System. In addition, this Plan is intended to facilitate achievement of the following other objectives:

- a. Improve system safety by effectively reporting, investigation and analysis of all adverse events, including accidents and incidents as defined by FTA and GDOT
- b. Ensure the identification of hazards associated with adverse events
- c. Ensure effective analysis of adverse events, including incidents and accidents to understand root causes, and accurately document the event, analysis and conclusions
- d. Ensure the implementation of corrective measures to prevent or mitigate reoccurrences of adverse events

1.3 Scope

This Plan is intended to assist Atlanta Streetcar management investigating accidents and incidents in a logical and organized manner. Accident investigation is primarily a fact-finding and analytical process. It is not intended to affix blame, subject persons to liability for their actions, or recommend disciplinary action.

In developing this Plan, Atlanta Streetcar has incorporated the safety policies, plans, and governmental reporting requirements from the following assets:

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GDOT Program Standard for Rail Safety and Security Oversight 8/2013

49 CFR 659 - Rail Fixed Guideway Systems

OSHA 1960.70 - Employee Responsibilities and Rights

NTSB 49 CFR 840.3 - Notification Rules

49 CFR 831 - Accident Investigation procedures

APTA Standard for Rail Transit Accident / Incident Investigation, 7/2004

Atlanta Streetcar System Safety Program Plan;

Atlanta Streetcar Hazard Management Plan;

The Atlanta Streetcar Corrective Action Plan

Incidents resulting from intentional acts (security incidents and crimes, typically) are excluded from this Plan. They will be investigated in accordance with applicable local, State, or Federal law by the City of Atlanta Police Department or other law enforcement agencies. In such cases, Atlanta Streetcar will provide technical assistance as needed, including executing portions of this Plan to address the non-criminal or non-security elements of the incident. Should it be determined that an accident / incident was not the result of criminal activity, Atlanta Streetcar will assume the lead role in the investigation.

2.0 Definitions and Acronyms

Definitions

Accident: Any event, series of events, or conditions that result in death, injury, occupational illness, damage to or loss of equipment or property, or damage to the environment. Any event involving the operation and maintenance of the Atlanta Streetcar rail system that is a result of the following:

- a. an individual dies
- b. an individual suffers bodily injury and immediately receives medical treatment away from the scene of the accident, or
- c. a collision, derailment or fire causes property damage in excess of \$25,000

Authority Having Jurisdiction: An organization, office, or individual charged with enforcing the requirements of a municipal ordinance, standard operating procedure (SOP), or bulletin, or for approving the selection of equipment, materials, an installation, or a procedure.

Fatality: A transit-caused death confirmed within **thirty (30) days** of a transit incident, which results from a Streetcar collision, derailment, fire, evacuation, security incident, vehicle leaving the track, or not otherwise classified event.

Hazard: Any real or potential condition (as defined in the *Atlanta Streetcar Hazard Management Plan*) that can cause injury, illness, or death; damage or loss to a system; equipment or property; or the environment.

Incident: An unforeseen event or occurrence that does not result in injury or property damage.

Investigation: A process used to determine the causal and contributing factors of an accident or hazard, so that all actions to prevent recurrence can be identified.

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Incident Commander (IC): The emergency responder agency staff member responsible for managing the emergency operation.

On Scene Investigator (OSI): The Atlanta Streetcar supervisor responsible for responding to any emergency/incident, and acts as a liaison with emergency responders. The On Scene Investigator is the scene manager for Atlanta Streetcar until relieved by a more senior manager. The OSI will also partner with the Director of Safety, Security and Training or designated Investigator in Charge (IIC) to conduct a scene investigation.

Investigator in Charge (IIC): The Atlanta Streetcar Director of Safety, Security and Training or designee responsible for the detailed investigation of an accident/incident.

Loss-causing: Any event or condition that inflicts bodily injury, loss of life and/or property, or delay of service.

Minor / Non-serious injuries: Injuries requiring only first aid. If a victim has been transported to a health care facility, this determination is based on the assessment of responding paramedics/emergency medical technicians (EMT).

Qualified Supervisor: A Streetcar supervisor that has received training, and is authorized to conduct accident and incident investigations on the Atlanta Streetcar.

Serious injuries: Life threatening or traumatic injuries, unconsciousness, or loss of breathing/pulse. This determination is based on the assessment of responding paramedics and EMTs.

Unacceptable Hazard: Any hazard involving any combination of fatalities, injuries, or property damage to which the Streetcar Director of Safety, Security and Training has assigned an Initial Risk Assessment index of 1A, 1B, 1C, 2A, or 2B (i.e., will be classified as an unacceptable hazardous condition). The full explanation of these ratings can be found in Atlanta Streetcar Hazard Management Plan.

Acronyms

The following acronyms are used in this document.

AHJ	Authority Having Jurisdiction
CAP	Corrective Action Plan
CFR	Code of Federal Regulation
FTA	Federal Transit Administration
GDOT	Georgia Department of Transportation
IC	Incident Commander
OSI	On Scene Investigator
NTSB	National Transportation Safety Board
VMF	Vehicle Maintenance Facility

3.0 Responsibilities

The Atlanta Streetcar Director of Streetcar Services is responsible for ensuring awareness of and compliance with this Plan throughout the organization and execution of the actions outlined herein.

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The Atlanta Streetcar Safety Certification and Security Committee is responsible for addressing and resolving all issues related to safety and security, which would include GDOT reportable accident / incident investigation and final reporting.

The Atlanta Streetcar Director of Safety, Security and Training or their designee is responsible as follows:

- a. Directly managing the accident and incident investigation process, reporting, corrective action plan, and document control
- b. Functioning as the primary point of contact with GDOT, NTSB, FTA, and other external agencies and regulatory bodies
- c. Ensuring effective implementation of this Plan and related procedures within the Atlanta Streetcar management organization and internal Atlanta Streetcar stakeholders
- d. Ensuring proper education and certification of Streetcar managers and supervisors to implement this Plan and conduct an investigation

The On Scene Investigator (OSI): The Atlanta Streetcar this Plan responsible for responding to an emergency/incident, and acting as a liaison with emergency responders. The On Scene Investigator is the scene manager for Atlanta Streetcar until relieved by a more senior manager. They will evaluate conditions on scene, be responsible for notifying the Manager of Streetcar Services for appropriate internal support personnel and arrange for alternate transportation services where appropriate. The OSI will also partner with the designated Investigator-in-charge (IIC) to conduct a scene investigation.

Investigator in Charge (IIC): The Atlanta Streetcar Director of Safety, Security and Training or his/or her designee responsible for the detailed investigation of an accident/incident.

Atlanta Streetcar Manager of Streetcar Services, the Superintendent of Operations, and the Superintendent of Maintenance: Once notified of an accident/incident, these positions will support the investigation process by providing assistance in equipment engineering analysis, rule interpretation, post incident inspection and testing, and in some cases, reenactment. They will also conduct and document post-accident inspections and tests on vehicles and/or equipment to determine if pre-existing conditions contributed to the accident. The components to be investigated, documented, inspected, and/or tested will include, at a minimum:

- a. Operator controls
- b. Wheels, axles, and trucks
- c. Braking systems
- d. Power distribution
- e. Signal systems components
- f. Track systems components
- g. Communication system
- h. Lighting /illumination

Streetcar Supervisor: Upon receiving a report of an accident, incident or hazardous condition, the Streetcar supervisor will notify emergency services (if required), try to identify severity of the incident, and notify the Manager of Streetcar Services and on-call support personnel to respond to the scene.

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The Streetcar this Plan on Duty will be based at the VMF and will be the central point of notification regarding any accident, incident, or hazardous condition on the Streetcar Systems. All Streetcar supervisors have direct contact with the City of Atlanta Emergency Communications Center at all times via portable radio, land line and cellular phone.

City of Atlanta Media Relations Department: Upon notification of a serious accident, the City of Atlanta Media Relations Department will assign a spokesperson to represent Atlanta Streetcar Organization. The spokesperson will contact the Manager of Streetcar Services for information regarding the accident, liaise between the Manager of Streetcar Services and the media, obtain copies of all media materials (video, audio, print, etc.) of the accident, and keep the Atlanta Streetcar Chief Operating Officer and Director of Streetcar Services informed of all media requests and actions.

Contractors: The Executive Director, Director of Safety, Security and Training and Safety Certification and Security Committee may decide separately or together to request the assistance of a 3rd party contractor to support accident investigations. Atlanta Streetcar will define the duties of that contractor upon its retention, and will further provide the referenced duties to GDOT as requested by GDOT.

4.0 Accident / Incident Training

The quality of an accident or incident investigation depends on the capability of the investigation team and the guidance and support it has to carry out the investigation. Atlanta Streetcar Managers and Supervisors are trained based on industry best practice so that the investigation can be conducted comprehensively and consistently for all accident and incidents.

Atlanta Streetcar's Director of Safety, Security and Training has the responsibility to train Managers and Supervisors that will perform accident investigations to ensure they are thoroughly familiar and capable of implementing Streetcar accident / incident plans and procedures.

5.0 Investigation Process

5.1 Applicability

The Atlanta Streetcar Director of Safety, Security and Training or his/her designee will conduct investigations at one of three levels:

- a. **Level I** – Event involves minor damage and injury. Accident report is filled out on-scene by Atlanta Streetcar personnel, in most cases by a Streetcar this Plan. This Plan (or applicable personnel) will forward this report to the Director of Safety, Security and Training for review and/or the creation of a corrective action plan.
- b. **Level II** – Event involves significant damage, injury requiring hospitalization, imminent danger, or a hazardous condition. This requires an investigation by a Director of Safety, Security and Training and the manager of Streetcar Services resulting in a detailed report and the creation of a corrective action plan. Event may require investigation from outside agencies such as GDOT, FTA, or NTSB.
- c. **Level III** – Event involves major asset damage, injuries, fatalities, or major disruptions of normal operations. This requires convening of a Multi-Departmental Investigation under the direction of the Atlanta Streetcar Chief Operating Officer. This investigation will conclude with a detailed final investigation report accompanied by a corrective action plan. This event may require an investigation from outside agencies such as GDOT, FTA or the NTSB.

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Accidents requiring a detailed investigation report and corrective action plan include, but are not limited to:

- a. All collisions involving Atlanta Streetcar vehicles, whether with other vehicles, equipment, people, obstacles, or facilities.
- b. Rail vehicle derailments, split switches, etc., whether on the main line, in the yard, or in the shop.
- c. All fires, explosions, or smoke conditions involving Atlanta Streetcar vehicles, facilities and/or infrastructure.
- d. An emergency evacuation of patrons or employees from Atlanta Streetcar vehicles, stations, or other facilities.
- e. Employee injuries or fatalities incurred while on the job.
- f. Injuries or fatalities which occur in Atlanta Streetcar vehicles, on Atlanta Streetcar property, or caused by Atlanta Streetcar vehicles off Atlanta Streetcar property.
- g. Accidents, injuries, fires, etc. occurring on Atlanta Streetcar construction sites.
- h. A series of events which, when viewed individually, may not warrant an investigation, but when considered collectively could indicate a hazardous trend.
- i. Other unusual occurrences, incidents, malfunctions, etc., which may impact the safety of Atlanta Streetcar customers, property, systems, or equipment; i.e., floods, catastrophic equipment failures, major service delays, etc.

5.2 Internal Notification

As defined in *Atlanta Streetcar System Safety Program Plan*, all Managers, Supervisors, Employees and Contractors *must* report all accidents and emergency incidents as soon as possible. Atlanta Streetcar Supervisors will be the central point of notification regarding any accident, incident or hazardous condition.

The Executive Director, the Director of Safety, Security and Training and the Safety Certification and Security Committee may decide separately or together to request the assistance of a 3rd party contractor to support investigations. ASC will define the duties of that contractor upon retention of such contractor, and will provide duties to GDOT as requested by GDOT.

Since each accident and incident may be different, the process and task detailed in this document will not necessarily be applied to, nor required for, every investigation. That decision is based upon experience and good judgment of Atlanta Streetcar Management and that of the investigative team.

5.3 On-Scene Investigation

The first qualified Atlanta Streetcar this Plan to arrive at the accident scene will act as the On-Scene Investigator (OSI). The Manager of Streetcar Services will support the OSI with support personnel and equipment, and assist mitigating the situation and restoring service. All additional Atlanta Streetcar support personnel responding to the accident will report to the OSI for direction.

Once notified, the Director of Safety, Security and Training will designate appropriate streetcar personnel to perform the investigation. Depending on the severity of the adverse event, the Director

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may or may not will respond to the scene or conduct the investigation in person per the ASC SSPP Section 10. The on-scene investigation will focus on the following tasks:

- a. Evaluate the accident scene to determine what occurred, document the final uncontrolled position of employee, type and severity of injury, position of vehicles and equipment involved, and any other relevant situational data
- b. Evaluate the accident scene to determine any mechanical, physical, and environmental conditions that may have contributed to the accident/incident
- c. Conduct interviews of persons essential to the investigation of the incident, such as the vehicle operator, witnesses, injured persons, supervisors, and controllers/dispatchers
- d. Evaluate what job the employee was performing or assigned to, and if the employee was properly trained and qualified to perform the duty assigned at the time of the accident and incident
- e. Make a preliminary assessment whether an unsafe action or unsafe condition contributed to the accident and incident
- f. Determine what personal protective equipment was required for the job being performed, whether it was being worn, and whether it was in good condition and proper for hazard protection

Once an event occurs, short-term information quickly becomes perishable as an accident scene is recovered (e.g., equipment or obstructions are moved or re-arranged, equipment controls are re-positioned, witnesses leave the scene, etc.). The primary task of on-site data collection is to prioritize the retrieval of such perishable information. (*Refer to Atlanta Streetcar Investigation Procedures.*)

5.4 Regulatory Reporting Thresholds

5.4.1 GDOT Notification Criteria

The Director of Safety, Security and Training will notify GDOT within **two (2) hours** of any incident involving a transit vehicle or any incident occurring on Atlanta Streetcar controlled property where one or more of the following occurs:

- a. A fatality at the scene, or where an individual is confirmed dead within **thirty (30) calendar days** of a transit-related incident
- b. Injuries requiring immediate medical attention away from the scene for two or more individuals
- c. Property damage equal to or exceeding \$25,000 to rail transit vehicles, non-rail transit vehicles, other Atlanta Streetcar property or facilities, or non-Atlanta Streetcar property
- d. An evacuation for life safety reasons
- e. Any derailment
- f. A collision at a grade crossing (street intersection)
- g. A collision with any person on the rail right-of-way
- h. A collision between two rail transit vehicles or between one rail transit vehicle and a non-revenue vehicle

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5.4.2 GDOT Notification Procedure

Initial Telephone Call: Within **two (2) hours** of a reportable event, the Director of Safety, Security and Training will call the cell phone of GDOT's contact person for state safety oversight (678-206-5589), leaving a detailed message. The Director of Safety, Security and Training will provide as much of the following information as possible:

- Name and job title of the person reporting, and identification Atlanta Streetcar as the Rail Transit Authority submitting the report
- Event type (fatality, injuries, property damage, evacuation, derailment or other)
- Location and time of event and
- An initial assessment of the extent of fatalities and injuries
- Preliminary estimate of property damage (less than \$ 25, 000 or Greater than \$25, 000)

Within **six (6) hours** of a reportable event or as soon thereafter as practicable, The Director of Safety, Security and Training will provide a fax (404-631-1937), email or any other means of communications necessary to the GDOT's point-of-contact updating or confirming the information contained in the initial report. -The updated information of the event will include:

- Name and job title of person reporting, identifying Atlanta Streetcar as the reporting transit authority
- Event type (fatality, injuries, property damage, evacuation, derailment or other) and description
- Location and time of event
- Initial assessment of the extent of additional fatalities, injuries
- Rail transit vehicle(s) involved (type, number)
- Other vehicle(s) involved (describe)
- Implemented and / or planned corrective action
- Atlanta Streetcar point-of-contact for the investigation (name, telephone and email address).
- Preliminary estimate of property damage (relative to \$25,000 guideline)
- Is the event NTSB reportable and if NTSB will investigate

Preliminary Investigation Report: Within **forty-eight (48) hours** of a reportable event, the Atlanta Streetcar Director of Safety, Security and Training will send a Preliminary Report to GDOT via e-mail to GDOT's contact person for state safety oversight, listed above. The report will include at a minimum:

- Initial findings of fact
- A continuing investigation plan
- NTSB involvement
- Whether an ad hoc investigation committee been convened

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Status Report: Until the investigation is completed Atlanta Streetcar Director of Safety, Security and Training will prepare and submit **monthly** status investigation reports. The status investigation reports at a minimum will include:

- a. Minutes of any meeting held by the agency's ad hoc reportable event investigation committee or contractor
- b. Disclosure of any immediate actions the agency has taken, planned and status of the investigation
- c. Principal issues or items currently being evaluated
- d. Overall progress and status of the investigation

At any time during the investigation, the Director of Safety, Security and Training will be prepared to provide a full briefing on the known circumstances of the event, status the Atlanta Streetcar investigation or the NTSB investigation and investigation activities.

Final Investigation Report: Each investigation conducted on behalf of GDOT must be documented in a final report that includes a description of investigation activities, findings, identified causal factors, and a corrective action plan (if required). As specified in its *Atlanta Streetcar Investigation Procedures* and *Atlanta Streetcar Corrective Action Plan Program*, and recommended by GDOT, the final investigation report will be separated in two parts:

- a. Description of investigation activities, investigation findings, and determination of the most probable cause and additional contributing causes
- b. Recommendations to prevent recurrence and a corrective action plan, if required

Final Investigation Report and Approval Process: GDOT will review the final investigation report within **thirty (30) calendar days** of receipt. If the review will take longer than **thirty (30) calendar days**, GDOT will notify Atlanta Streetcar Director of Safety, Security and Training in writing on or before Day 30 and provide a revised date for the completion of the review. To reduce the potential for conflict, GDOT encourages Atlanta Streetcar Director of Safety, Security and Training to submit a draft version of the final investigation report to GDOT point-of-contact so that concurrence may be obtained on probable causes, additional contributing causes, corrective action plans (if required), and implementation schedules before the Final Report is finalized and formally issued by Atlanta Streetcar Safety and Security Department.

Independent GDOT Investigations: GDOT reserves the right to conduct independent investigations on its own behalf of any reportable event. GDOT will inform Atlanta Streetcar Director of Safety, Security and Training of its intention to conduct an investigation or participate in an investigation of a reported event no later than **seven (7) calendar days** following receipt of initial report.

With the exception of the Atlanta Streetcar Accident / Incident Investigation Final Report, all accident investigation material that the Atlanta Streetcar provides to GDOT SSO for review purposes will be considered the Atlanta Streetcar's property and returned to the safety or security point of contact. GDOT SSO will not maintain copies of this material.

5.4.3 NTSB Notification

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The Director of Safety, Security and Training or designee will notify the NTSB (1-800-424-0201, National Response Center) at the earliest practical time following any one of the following accidents:

- a. No later than **two (2) hours** after an accident that results in:
 - (1) A passenger or employee fatality or serious injury to two or more crew members or passengers requiring admission to a hospital
 - (2) The evacuation of a passenger train
 - (3) A fatality at a grade crossing
- b. No later than **four (4) hours** after an accident which does not involve any of the circumstances enumerate in bullet one above, but which results in:
 - (1) Damage (based upon a preliminary gross estimate) of \$150,000 or more for repairs, or the current replacement cost, to railroad and non-railroad property
 - (2) Damage of \$25,000 or more to a passenger train and railroad and non-railroad property.

5.4.4 FTA Notification

The Director of Safety, Security and Training or designee will notify the FTA Office of Safety and Security of major accidents, and service disruptions in accordance with its requirements. Current requirements include telephone notification 202-366-2896 (during office hours) or 1-800-424-0201 National Response Center (after normal office hours)] followed by a FAX (202-366-7951) and/or e-mail notification.

6.0 Post-Incident Investigation

The Investigator in Charge will coordinate needed post-accident research and analysis with the support of Atlanta Streetcar Departments involved with the accident/incident and, in applicable cases, with independent outside agencies.

In the aftermath of an accident, long-term information must be collected (e.g., operational speeds and conditions, maintenance and inspection records, damage estimates, etc.). The primary task of off-site data collection is to coordinate documentation to support the evaluation of the system, as well as vehicle and employee performance.

After the accident scene has been cleared, the IIC needs to accomplish the following tasks:

- a. Conduct interviews
- b. Inspect physical evidence
- c. Analyze collected data
- d. Reconstruct the event (if necessary)
- e. Perform accident reenactment (if necessary)
- f. Review training records and certifications
- g. Determine probable cause and contributing factors

7.0 Hazard Investigation Procedure

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Atlanta Streetcar will use the *Atlanta Streetcar Investigation Procedures* to investigate all reported hazards. Atlanta Streetcar Safety and Security Department will initiate a formal investigation of any unacceptable hazard and regularly update GDOT of the investigation activities.

The Atlanta Streetcar Director of Safety, Security and Training will notify GDOT of any hazard determined to be unacceptable.

Initial Investigation Report - Atlanta Streetcar Director of Safety, Security and Training will submit to the GDOT point of contact an initial investigation report on the unacceptable hazard within **seven (7) calendar days** of initial GDOT notification.

- a. **Status Investigation Reports.** Atlanta Streetcar Director of Safety, Security and Training will submit to the GDOT point of contact status reports of the unacceptable hazard condition at least **monthly** until the investigation is complete.
- b. **Final Investigation Report.** Atlanta Streetcar Director of Safety, Security and Training will complete a final investigation report detailing a description of investigation activities, findings, identified causal factors, and any corrective actions. The Director of Safety, Security and Training will submit this final report to the SCSC for final review and forward to GDOT.

Support of GDOT Hazard Investigation - While the Atlanta Streetcar Director of Safety, Security and Training is the investigator of hazards, GDOT reserves the right to conduct its own investigations, if necessary. Atlanta Streetcar Safety and Security Department will provide all necessary data and support necessary for GDOT to complete its investigation

8.0 Root Cause Analysis

Root Cause Analysis (RCA) is a method of problem solving that tries to identify the root causes of faults or problems that cause operating events.

RCA practice tries to solve problems by attempting to identify and correct the root causes of events, as opposed to simply addressing their symptoms. By focusing correction on root causes, problem recurrence can be prevented. RCFA (Root Cause Failure Analysis) recognizes that complete prevention of recurrence by one corrective action is not always possible.

9.0 Final Investigation Report

Due to the severity of the accident or emergency incident, there may be a demand for a preliminary or interim report to detail investigation progress. In this case, the Director of Safety, Security and Training will partner with the IIC and create this report, which will be reviewed by the Atlanta Streetcar Director of Streetcar Services.

For the final report, the IIC should receive or retrieve all reports and documents pertaining to the investigation from all supporting Atlanta Streetcar Departments and external agencies. The report will be assembled to contain the following information:

- a. Executive summary
- b. Sequence of events
- c. Findings and analysis
- d. Conclusions
- e. Probable and contributory causes

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- f. Recommendations to prevent reoccurrence
- g. Implementation of a Corrective Action Plan (CAP)

10.0 Corrective Action Plan

Should post accident / incident investigation warrant corrective action to prevent reoccurrence, or in some cases occurrence, the IIC will work with the Director of Safety, Security and Training to formulate a corrective action plan, as defined in the *Atlanta Streetcar Corrective Action Plan Program (CAP)*. The CAP focuses on the systematic investigation of root causes of identified problems and procedures or unacceptable risks in an attempt to prevent their recurrence or to prevent occurrence. Per the ASC SSPP, the SCSC will provide guidance and oversight to the formulation of the CAP.

The Streetcar Director of Safety Security and Training will manage the overall CAP process. The Manager of Streetcar Services and the Operations and Maintenance Superintendents assigned to implement corrective action will keep the Streetcar Director of Safety Security and Training informed of the status of corrective action(s) and when the planned actions have been implemented. CAP's will also be developed to address findings address related systemic problem and recommendations from formal hazards analysis, Failure Mode and Effects Analysis and Fault Tree Analysis. A description of each CAP will identify:

- a. Identified hazard or deficiency
- b. Planned activities or actions to resolve deficiency or hazard
- c. The department and personnel responsible for implementing corrective action
- d. Schedule of completion for implementation.

10.1 GDOT CAP Notifications

GDOT requires Atlanta Streetcar develop a corrective action plan with the intent of addressing the hazard or deficiency identified as a result of an accident investigation.

The Director of Safety, Security and Training will notify GDOT that a corrective action plan will be developed and the date when the corrective action plan will be submitted to GDOT within thirty (30) calendar days after the need for the corrective action plan has been identified by Atlanta Streetcar or GDOT. Depending on the complexity of the issue requiring corrective action, and at GDOT discretion, additional time may be granted to MARTA / CITY to prepare the corrective action plan.

The CAP will be submitted to GDOT for review and approval, and GDOT will notify of acceptance or rejection within fifteen (15) calendar days of receiving corrective action plan. In the event that GDOT and Atlanta Streetcar dispute the need, findings, or enforcement of a corrective action plan, GDOT will allow Atlanta Streetcar thirty (30) calendar days to submit its case. GDOT will then issue final direction to Atlanta Streetcar regarding the corrective action plan.

Atlanta Streetcar will develop and maintain a Corrective Action Plan (CAP) Tracking

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Log, which identifies all corrective action plans approved by GDOT and presents their status. This log will be submitted no less than quarterly to GDOT point-of- contact in electronic form via email or in hard copy via mail or fax. As corrective action plans are closed out, Atlanta Streetcar must submit verification that the corrective action(s) has been implemented as described in the corrective action plan or that a proposed alternative action(s) has been implemented. This verification must be submitted no less than quarterly with the CAP Log in electronic or hard copy format. In the log, Atlanta Streetcar must also inform GDOT concerning any alternative actions for implementing a corrective action plan.

11.0 Accident / Incident Tracking Log

The Accident / Incident Investigation Plan include an Accident / Incident Tracking Log that will be maintained by the Streetcar Director of Safety Security and Training. GDOT requires Atlanta Streetcar to establish an Accident / Incident Tracking Log which reflects the consolidation of information in the accident investigation process. The Accident / Incident Tracking Log must contain all hazards identified through the various methods applied by Atlanta Streetcar:

ID Number Refers to the number assigned to the incident

Date of Incident Refers to the date the incident occurred

Time of Incident Refers to the time the incident occurred

Time of GDOT Notification Refers to the time the GDOT was notified of the incident

Type of Incident Refers to the category of reportable incident:

- a. Derailments
- b. Fires
- c. Major Service Interruption
- d. Other

A detail of Collision If reportable incident is a collision refers to details of what the transit vehicle collided with:

- Person
- Automobile (Road Vehicle)
- Object
- Transit Vehicle

Location of Incident Refers to location where incident occurred:

- a. Track way
- b. Station
- c. Maintenance Facility
- d. Yard

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e. Other

Fatalities Refers to persons involved in incidents that are categorized as follows:

- a. Passenger
- b. Patron
- c. Public
- d. Worker

Injuries Refers to persons involved in incidents that are categorized as follows:

- a. Passenger
- b. Patron
- c. Public
- d. Worker

Estimated Property Damage Refers to whether or not the incident resulted in property damage greater than or equal to \$25,000 in estimated damages.

Name of Investigator Refers to name of individual responsible for the investigation

Description of Incident Refers to a brief narrative summary of the incident – what it is; where it is located; what elements it is comprised of element of system operation affected by the incident (i.e., facilities, vehicles, track and signal, personnel training and procedures, etc.).

Probable Cause Refers to requirements for each final investigation report to identify causal and contributing factors, including following 11 categories:

- a. Equipment Failure
- b. Poor Maintenance
- c. Operating Rule Violation / Human Factor
- d. Slips and Falls
- e. Imprudent Customer Actions
- f. Medically Related
- g. Action of Motorist
- h. Pedestrian Actions
- i. Trespasser
- j. Suicide
- k. Other

12.0 Program Review and Modification

Review of Annual Submission

Title:	Accident/ Investigation Plan
SCSC Approval Date:	2014-12-19
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Following initiation of revenue service, Atlanta Streetcar will conduct an annual review of its Accident / Incident Plan (AIP) and update it as necessary to ensure that the AIP is current at all times. Internal reviews will follow the same process as indicated in Section 4.2.1 of the SSPP.

In the event that Atlanta Streetcar conducts its annual AIP review and determines that an update is not necessary for the year, the Director of Safety, Security and Training must prepare and submit by January 1 formal correspondence notifying the GDOT point-of-contact of this determination. If GDOT wishes to object to this determination, the GDOT point-of-contact will notify the Director of Safety, Security and Training within thirty (30) calendar days.

In the event that Atlanta Streetcar conducts its annual AIP review and determines that an update is necessary for the year, the Director of Safety, Security and training will submit a revised AIP to the GDOT Program Manager by January 31. As appropriate, referenced materials affected by the revision(s) must also be submitted with the AIP.

Each revised AIP submitted to GDOT by MARTA / CITY must include a text or tabular summary that identifies and explains proposed changes and includes a time frame for completion of the associated activities.

Review of Periodic Submission

At any given time, additional reviews of Atlanta Streetcar AIP may be required to address specific issues based on implementation and compliance to MAP-21, Section 5329 and / or the GDOT program standard or procedures; review of Atlanta Streetcar documents; or other safety related project information.

Upon receipt of a written notification from GDOT for AIP modifications, the Director of Safety, Security and Training will submit a revised AIP to GDOT within thirty (30) calendar days.

In the event that Atlanta Streetcar initiates updates, the Director of Safety, Security and Training will submit the modified AIP, and any subsequently modified procedures, to GDOT SSO for review and approval within thirty (30) calendar days of the effective date of the change.

The Atlanta Streetcar Safety Certification and Security Committee are responsible for addressing, resolving all issues related to safety and security which would include GDOT reportable accident / incident investigation, corrective action and final reporting.

